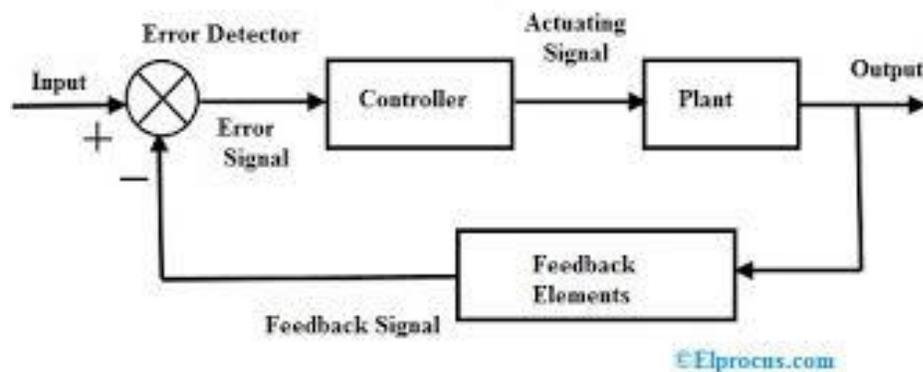


## Closed Loop System:

A **closed loop** control **system** is a set of mechanical or electronic devices that automatically regulates a process variable to a desired state or set point without human interaction. **Closed loop** control **systems** contrast with open **loop** control **systems**, which require manual input.



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A control loop is the system of [hardware](#) components and [software](#) control functions involved in measuring and adjusting a variable that controls an individual process. Closed loop control systems are widely used in industry applications including agriculture, chemical plants, quality control, nuclear power plants, water treatment plants and environmental control. Closed loop control systems enable automation in a number of industrial and environmental settings and regulate processes in industrial control systems ([ICS](#)) such as supervisory control and data acquisition ([SCADA](#)) and distributed control systems ([DCS](#)).





Closed loop control systems are widely used in various industry applications including agriculture, chemical plants, quality control, nuclear power plants, water treatment plants and environmental control.

Unlike open loop control systems or switchable control loops, closed loops don't take input from human operators. This means that other than adjustment by control systems, they operate automatically and independently. In closed loop control, the action is entirely dependent on the process variable. In regards to a heating system, for example, a closed loop might maintain a temperature as a set point, automatically switching on when temperature is below the set point. Open control, in contrast, would enable individuals to set timers and turn instant on heat.

